D-Link®

2.4GHz Wireless LAN

AirPlusXtremeG+™

DWL-G650+

802.11g Wireless LAN CardBus Adapter

The D-Link AirPlusXtremeG+™ DWL-G650+ Wireless CardBus adapter is an enhanced 802.11g high-performance, wireless adapter for notebook computers. This adapter supports high-speed wireless networking of up to 54Mbps, while providing seamless interoperability with all existing 802.11b and 802.11b+ wireless equipment. Together with better security, this adapter is the ideal wireless solution that offers an upgrade to a fast, new technology while protecting your past investments through interoperability with your current network equipment.

Up to 54Mbps Transmission Speed

The DWL-G650+ provides speeds of up to 54Mbps when used with other D-Link AirPlusXtremeG+™ and other 802.11g products. This compares favorably with 802.11b adapters that offer 11Mbps speed, and with 802.11b+ adapters that give 22Mbps transmission. The DWL-G650+ provides all these using a single 2.4GHz wireless frequency, eliminating the complexity of dualband networking.

This enhanced speed and adoption of 2.4GHz frequency, now available for public use in most countries, plus the mobility and convenience inherent in a wireless LAN, make this adapter an ideal solution for bandwidth intensive WLAN applications.

Real Throughput 8 Times Faster Than 802.11b Wireless Adapters

Apart from the higher theoretical network data transfer speed of 54Mbps for 802.11g against the 11Mbps for 802.11b, the DWL-G650+ also delivers a much faster data transmission than other wireless LAN adapters. In a typical working environment with multiple users accessing the network at the same time, the DWL-G650+ operates at 8 times the speed of a normal 802.11b wireless LAN card, which is made possible by means of an embedded turbo engine on-board this adapter.

Compatible With 802.11b and 802.11b+

802.11g compatibility with existing wireless LAN standards means that you do not need to change your entire network to maintain connectivity. You may sacrifice some of 802.11g's speed when you mix 802.11b and 802.11b+ with 802.11g devices, but you will not lose the ability to communicate.

Easy Migration to Higher Bandwidth

By maintaining compatibility with your existing wireless network equipment, this adapter lets you upgrade to a higher speed at the pace you want. The DWL-G650+ and other 802.11g standard devices can be gradually added to your network, while the rest of your older network remains perfectly connected.

Powerful Performance

To take full advantage of the new 54Mbps network bandwidth, this adapter uses 32-bit high-speed CardBus design to transfer network data with the computer host. This ensures that no bottlenecks take place between your computer's CPU and your network wireless adapter.

Advanced Security

In addition to offering faster data transfer speeds, this adapter also provides the newest, strongest, most advanced security features available today. For home users that do not incorporate a radius server in their networks, security is provided in a convenient, automatic way (when used in conjunction with other 802.11g products). No longer will you have to frequently input a new WEP key to execute security operations. With the DWL-G650+, you will automatically receive a new key every time you connect, doing away with the inconvenience of manual WEP key input. The DWL-G650+ provides a stronger network security with 64, 128 and 256-bit WEP data encryption.

Easy Installation

With hot swap and plug-and-play capabilities, this adapter can be easily installed into a notebook PC for direct connection to any wireless device in the ad-hoc mode or infra-structure mode. Access to your wired Ethernet servers is also provided through your wireless LAN access points.

Key Features

- *802.11g wireless LAN standard*
- *32-bit CardBus performance*
- *Up to 54Mbps data transfer rate **
- *Real throughput 8x faster than 802.11b ***
- *Backward compatible with 802.11b/b+ standards*
- *Dynamic data rate scaling at 1, 2, 5.5, 6, 9, 11, 12, 18, 22, 24, 36, 48, and 54Mbps*
- *Maximum reliability, throughput and connectivity with automatic data rate switching*
- *OFDM (Orthogonal Frequency Division Multiplexing) technology*
- *Stronger network security with 64/128/256-bit WEP data encryption*
- *User-friendly configuration, diagnostic utility*
- *Connects up to 100 meters indoors, 400 meters outdoors ****

* *When used with other 802.11g devices*
** *When used with AirPlus XtremeG+™ products*
*** *Environmental factors may adversely affect range*

DWL-G650+

Technical Specifications

2.4GHz Wireless LAN

Hardware

System Requirements
- Laptop with available CardBus Type II slot
- Windows XP, 2000, ME or 98 SE
- 300MHz CPU or above
- 32MB memory or more

Wireless LAN Standards
- 802.11b
- 802.11b+
- 802.11g

PC Card Standard & Interface
v7.0 PC CardBus 32-bit compliant

Data Rates
- 802.11g: up to 54Mbps (6/9/12/18/24/36/48/54Mbps)
- 802.11b+: up to 22Mbps
- 802.11b: up to 11Mbps (1/2/5.5/11Mbps)

Transmission Technology
DSSS

RF Frequency Range
2.4 to 2.4835 GHz

Frequency Stability
Within +/- 25ppm

Operating Channels
- 1 to 11 channels (North America)
- 1 to 13 channels (Europe)

Data Modulation Type
DBPSK, DQPSK, CCK, PBCC and OFDM (BPSK/QPSK/16-QAM/ 64-QAM)

Antenna
Built-in 2dBi Gain diversity patch antenna

Transmit Output Power
- 802.11b: 16dBm (typical)
- 802.11g: 14dBm (typical)

Receive Sensitivity (for 802.11b)
(typically @PER < 8% packet size 1024 @ 25 °C +/- 5 °C)
- 22Mbps (PBCC): -80dBm
- 11Mbps (PBCC): -85dBm
- 11Mbps (CCK): -84 dBm
- 5.5Mbps (CCK): -87 dBm
- 2Mbps (QPSK): -90 dBm
- 1Mbps (BPSK): -92 dBm

Receive Sensitivity (for 802.11g)
(typically @PER < 8% packet size 1024 @ 25 °C +/- 5 °C)
- 54Mbps (OFDM): -71 dBm
- 48Mbps (OFDM): -72 dBm
- 36Mbps (OFDM): -77 dBm
- 24Mbps (OFDM): -80 dBm
- 12Mbps (OFDM): -86 dBm
- 9Mbps (OFDM): -87 dBm
- 6Mbps (OFDM): -89 dBm

Operating Range *
- Indoors: 100 meters (328 feet)
- Outdoors: 400 meters (1,312 feet)

** Environmental factors may adversely affect range*

Diagnostic LED
Wireless Link/Act

Software Features

Network
- Auto-switch to select 802.11g or 802.11b mode
- Supports Ad-Hoc, Infrastructure WLAN network
- Wireless roaming
- Data rate auto fall-back under noisy environment or longer range distance
- Site Survey with Profile function

Security
- WEP 64/128/256-bit data encryption (user-selectable)
- 802.1x security (MD5 and TLS) (in Windows XP only)
- Wi-Fi™ Protected Access *

** Feature supported in future software upgrade*

Configuration & Management
- Plug-and-Play setup and installation
- Management Utility supports Windows 98SE, ME, 2000, XP

Physical & Environmental

Power Supply
3.3 VDC +/- 5%

Power Consumption (802.11g)
- Transmit: 650mA
- Receive: 400mA
- Stand-by 20mA

Power Consumption (802.11b)
- Transmit: 600mA
- Receive: 350mA
- Stand-by: 20mA

Dimensions
118 x 54 x 7.4 mm

Operating Temperature
0 ° to 55 °C

Storage Temperature
-20 ° to 65 °C

Humidity
5% to 95% non-condensing

Regulation Compliance
- US: FCC Part 15 Class B
- CE/R&TTE

Box Includes
- DWL-G650+ wireless CardBus adapter
- CD (includes drivers, user's manual, Quick Installation Guide, Acrobat Reader 5.0)
- Quick Installation Guide (printed)

Ordering Information

DWL-G650+	802.11g wireless LAN CardBus Adapter
Please specify your model number as follows:	
DWL-G650+/NA	North America frequency
DWL-G650+/EU	EU frequency
DWL-G650+/CN	For use in China (China packaging)
TDWL-G650+	For use in Taiwan (Taiwan packaging)

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Germany	TEL: 49-6196-77990	FAX: 49-6196-7799300
France	TEL: 33-1-30238688	FAX: 33-1-30238689
Benelux	TEL: 31-10-282-1445	FAX: 31-10-282-1331
Italy	TEL: 39-2-2900-0676	FAX: 39-2-2900-1723
Iberia	TEL: 34-93-4090770	FAX: 34-93-4910795
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Denmark	TEL: 45-43-969040	FAX: 45-43-424347
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Australia	TEL: 61-2-8899-1800	FAX: 61-2-8899-1868
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India	TEL: 91-22-652-6696	FAX: 91-22-652-8914
Middle East	TEL: 9714-8834234	FAX: 9714-8834394
Turkey	TEL: 90-212-335-2553	FAX:90-212-335-2500
Chile	TEL: 56-2-232-3185	FAX: 56-2-232-0923
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